(h) In a given 800 MHz NPSPAC region, channels below 470 listed in Tables 2 and 4B which are vacated by a licensee relocating to channels 511–550 and remain vacant after band reconfiguration will be available as follows:

(1) Only to eligible applicants in the Public Safety Category until three years after the release of a public notice announcing the completion of band reconfiguration in that region;

(2) Only to eligible applicants in the Public Safety or Critical Infrastructure Industry Categories from three to five years after the release of a public notice announcing the completion of band reconfiguration in that region;

(3) Five years after the release of a public notice announcing the completion of band reconfiguration in that region, these channels revert back to their original pool categories.

(i) Special Mobilized Radio Systems licensees who operate non-cellular systems on any of the public safety channels listed in Table 1 prior to January 21, 2005 are grandfathered and may continue to operate on these channels indefinitely. These grandfathered licensees will be prohibited from operating 800 MHz cellular systems as defined in §90.7. Site-based licensees who are grandfathered on any of the public safety channels listed in Table 1 may modify their license only if they obtain concurrence from a certified public safety coordinator in accordance with §90.175(c). Grandfathered EA-based licensees, however, are exempt from any of the frequency coordination requirements of §90.175 as long as their operations remain within the Economic Area defined by their license in accordance with the requirements of §90.683(a).

(j) Licensees operating ESMR systems in the non-cellular portion of the band (as defined in §90.614) prior to January 21, 2005 may elect to continue operating in the non-cellular portion of the band. These licensees will be permitted to continue operating 800 MHz cellular systems (as defined in §90.7) in the non-cellular portion of the band. These licensees will be grandfathered indefinitely subject to the provisions of §§90.673, 90.674 and 90.675.

(k) Licensees may operate systems other than 800 MHz cellular systems (as defined in §90.7) on Channels 511–550 at any location vacated by an EA-based SMR licensee. For operations on these channels, unacceptable interference (as defined in §22.970 of this chapter and §90.672) will be deemed to occur only at sites where the following median desired signals are received (rather than those specified in §22.970(a)(1)(i) of this chapter and §90.672(a)(1)(i)). The minimum required median desired signal, as measured at the R.F. input of the receiver, will be as follows:

(1) Mobile units:

(i) For channels 511 to 524—the minimum median desired signal levels specified in §22.970(a)(1)(i) of this chapter and §90.672(a)(1)(i) shall apply;

(ii) For channels 524 to 534—the minimum median desired signal level shall increase linearly from the values specified in §22.970(a)(1)(i) of this chapter and §90.672(a)(1)(i) to −70 dBm;

(iii) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

(2) Portable units:

(i) For channels 511 to 524—the minimum median desired signal levels specified in §22.970(a)(1)(i) of this chapter and §90.672(a)(1)(i) shall apply;

(ii) For channels 524 to 530—the minimum median desired signal level shall increase linearly from the values specified in §22.970(a)(1)(i) of this chapter and §90.672(a)(1)(i) to −80 dBm;

(iii) For channels 530 to 534—the minimum median desired signal level shall increase linearly from −80 dBm to −70 dBm;

(iv) For channels 534 to 550—the minimum median desired signal level shall increase linearly from −70 dBm to −65 dBm.

[69 FR 67843, Nov. 22, 2004, as amended at 70 FR 6760, Feb. 8, 2005]

§ 90.619 Operations within the U.S./Mexico and U.S./Canada border areas.

(a) *Use of Frequencies in 800 MHz Band in Mexico Border Region.* All operations in the 806–824/851–869 MHz band within 110 km (68.4 miles) of the U.S./Mexico border (''Mexico border region'') shall be in accordance with international agreements between the U.S. and Mexico. Channels 231–710 are offset 12.5 kHz

lower in frequency than those specified in the table in § 90.613. Stations located on Mt. Lemmon, serving the Tucson, AZ area, will only be authorized offset frequencies.

(b) *Use of Frequencies in 900 MHz Band in Mexico Border Region.* All operations in the 896–901/935–940 MHz band within the Mexico border region shall be in accordance with international agreements between the U.S. and Mexico.

(1) The channels listed in Table 1 below are available to applicants eligible in the Industrial/Business Pool of subpart C of this part but exclude Special Mobilized Radio Systems as defined in § 90.603(c). These frequencies are available within the Mexico border region. Specialized Mobile Radio (SMR) systems will not be authorized on these frequencies.

For multi-channel systems, channels may be grouped vertically or horizontally as they appear in the following table. Channels numbered above 200 may be used only subject to the power flux density limits stated in paragraph (a)(2) of this section:

TABLE 1.—UNITED STATES/MEXICO BORDER AREA, BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 896–901/935–940 MHz BAND

[199 Channels]

Channel Nos.	
11–12–13–14–15	131–132–133–134–135
16–17–18–19–20	136–137–138–139–140
31–32–33–34–35	231–232–233–234–235
36–37–38–39–40	236–237–238–239–240
51–52–53–54–55	171–172–173–174–175
56–57–58–59–60	176–177–178–179–180
71–72–74–75	271–272–273–274–275
76–77–78–79–80	276–277–278–279–280
91–92–93–94–95	211–212–213–214–215
96–97–98–99–100	216–217–218–219–220
111–112–113–114–115	311–312–313–314–315
116–117–118–119–120	316–317–318–319–320
151–152–153–154–155	351–352–353–354–355
156–157–158–159–160	356–357–358–359–360
191–192–193–194–195	391–392–393–394–395
196–197–198–199–200	396–397–398–399
251–252–253–254–255	331–332–333–334–335
256–257–258–259–260	336–337–338–339–340
291–292–293–294–295	371–372–373–374–375
296–297–298–299–300	376–377–378–379–380

(2) The channels listed in Table 2 of this section are available for operations only to eligibles in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. These frequencies are available in the Mexico border region. The spectrum blocks listed in the table below are available for EA-based services according to § 90.681.

TABLE 2.—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 896–901/935–940 MHz BAND

[200 Channels]

Block	Channel Nos.
A	1–2–3–4–5–6–7–8–9–10
B	21–22–23–24–25–26–27–28–29–30
C	41–42–43–44–45–46–47–48–49–50
D	61–62–63–64–65–66–67–68–69–70
E	81–82–83–84–85–86–87–88–89–90
F	101–102–103–104–105–106–107–108–109–110
G	121–122–123–124–125–126–127–128–129–130
H	141–142–143–144–145–146–147–148–149–150
I	161–162–163–164–165–166–167–168–169–170
J	181–182–183–184–185–186–187–188–189–190
K	201–202–203–204–205–206–207–208–209–210
L	221–222–223–224–225–226–227–228–229–230
M	241–242–243–244–245–246–247–248–249–250
N	261–262–263–264–265–266–267–268–269–270
O	281–282–283–284–285–286–287–288–289–290
P	301–302–303–304–305–306–307–308–309–310
Q	321–322–323–324–325–326–327–328–329–330
R	341–342–343–344–345–346–347–348–349–350
S	361–362–363–364–365–366–367–368–369–370

TABLE 2.—UNITED STATES-MEXICO BORDER AREA, SMR CATEGORY 896–901/935–940 MHz BAND—Continued

[200 Channels]

Block	Channel Nos.
T	381–382–383–384–385–386–387–388–389–390

Channels numbered above 200 may only be used subject to the power flux density limits at or beyond the Mexico border as stated in paragraph (4) of this section.

(3) The specific channels that are available for licensing in the band 896–901/935–940 MHz within the Mexico border region are subject to Effective Radiated Power (ERP) and Antenna Height limitations as indicated in Table 3 below.

TABLE 3.—LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO ANTENNA HEIGHTS OF BASE STATIONS IN THE 896–901/935–940 MHz BANDS WITHIN 110 KILOMETERS (68.4 MILES) OF THE MEXICAN BORDER

Antenna height above mean sea level		ERP in watts (maximum)
Meters	Feet	
0–503	0–1650	500
504–609	1651–2000	350
610–762	2001–2500	200
764–914	2501–3000	140
915–1066	3001–3500	100
1067–1219	3501–4000	75
1220–1371	4000–4500	70
1372–1523	4501–5000	65
Above 1523	Above 5000	5

(4) All channels in the 896–901/935–940 MHz band are available for assignment to U.S. stations within the Mexico border region if the maximum power flux density (pfd) of the station's transmitted signal at any point at or beyond the border does not exceed −107 dB (W/m^2). The spreading loss must be calculated using the free space formula taking into account any antenna discrimination in the direction of the border. Authorizations for stations using channels allotted to Mexico on a primary basis will be secondary to Mexican operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding −107 dB (W/m^2).

(c) *Use of 800 MHz Band in Canada Border Region.* All operations in the 806–824/851–869 MHz band within 140 km (87 miles) of the U.S./Canada border (''Canada border region'') shall be in accordance with international agreements between the U.S. and Canada.

(d) *Use of 900 MHz Band in Canada Border Region.* All operations in the 896–901/935–940 MHz band within the Canada border region shall be in accordance with international agreements between the U.S. and Canada. The following criteria shall govern the assignment of frequency pairs (channels) in the 896–901/935–940 MHz band for stations located in the U.S./Canada border area. They are available for assignments for conventional or trunked systems in accordance with applicable sections of this subpart.

(1) Channels 1–399, as listed in § 90.613 table of 896–901/935–940 MHz Channel Designations, are available to eligible applicants for use in the U.S./Canada border area as shown in table 27. Additionally, Channels 71, 75, 79, 151, 155, and 159 are available in all regions only for implementation of an Advanced Train Control System as defined in 3 FCC Rcd 427 (1988) (Advanced Train Control Waiver).

TABLE 27—CHANNELS IN THE 896–901/935–940 MHz FREQUENCY BANDS AVAILABLE IN THE U.S./CANADA BORDER AREA

Region	Location (longitude)	Channels
1	66° W–71° W. (0–100 km from border) ...	1–200, 398, 399
2	71° W–80°30′ W (0–100 km from border)	1–120
3	80°30′ W–85° W (0–100 km from border)	1–340
4	85° W–121°30′ W (0–100 km from border).	1–200, 398, 399
5	121°30′ W–127° W (0–140 km from border).	1–200, 398, 399
6	127° W–143° W (0–100 km from border)	1–200, 398, 399
7	66° W–121°30′ W (100–140 km from border).	1–399
8	127° W–143° W (100–140 km from border).	1–399

Note: For assignments in the 896–901/935–940 MHz bands, the cities of Akron, Ohio (41°05′00″ N, 81°30′40″ W) and Youngstown, Ohio (41°05′57″ N, 80°39′02″ W) are considered outside of Region 3, and Syracuse, New York (43°03′04″ N, 76°09′14″ W) is considered outside of Region 2. These cities are defined as an area with the given center coordinates and encompassing a circle of 30 km radius.

(2) All frequency assignments made pursuant to paragraph (d)(1) of this section shall comply with the requirements of § 90.619(b)(2).

(3) In Region 5, Channels 201–397 may be authorized in the United States under the following conditions:

(i) An assignment may be made if the predicted power flux density (PFD) of a proposed station's signal does not exceed –107 dBW/m^2 at the border. The prediction of the PFD is calculated based upon a modified Longley-Rice point-to-point propagation model with time and location variabilities of 10 percent[3] and 3-second digitized terrain date[4].

(ii) Authorizations for Channels 201–397 in Region 5 are secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding –107 dBW/m^2 at or beyond the U.S./Canada border.

(4) Channel assignments for stations to be located in the geographical area in Region 1 enclosed by the United States-Canada border, the meridian 71° W and the line beginning at the intersection of 44°25′ N, 71° W, then running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45′ N, then running West along 45°45′ N to the intersection of the United States-Canada border, will be only for channels 121 through 160, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels.

(5) Channel assignments for stations to be located in the geographical area in Region 3 enclosed by the meridian of 81° W longitude, the arc of a circle of 100 km radius centered at 42°39′30″ N latitude and 81° W longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80°30′ W longitude to intersect the United States-Canada border West of 81° W, and the United States-Canada border, will be only for channels 121 through 230, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels. U.S. stations must protect Canadian stations operating on channels 121 through 230 within an area of 30 km radius from the center city coordinates (referenced to North American Datum 1983 (NAD83)) of London, Ontario (42°59′00.1″ N, 81°13′59.5″ W).

(6) *Additional channels available*—The channels listed in table 28 are available for assignment in Regions 1–6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 29 and 30. The spreading loss shall be calculated using the free space formula taking into account any antenna discrimination in the direction of the border.

TABLE 28—ADDITIONAL CHANNELS AVAILABLE

[Regions 1–6]

Region	Channel No.'s	Effective radiated power
1	201–397	See Table 29
2	121–399	See Table 29
3	341–399	See Table 29
4	201–397	See Table 29
5	201–397	See Table 30
6	201–397	See Table 29

Authorizations for stations using these channels will be secondary to Canadian operations and conditioned to require that licensees take immediate action to eliminate any harmful interference resulting from the station's transmitted signal exceeding the values specified in tables 29 or 30 at or beyond the U.S./Canada border.

TABLE 29—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO EFFECTIVE ANTENNA HEIGHT

[Regions 1, 2, 3, 4, and 6]

Effective antenna height (EAH)		PFD (dBW/m^2)
Feet	Meters	
0–500	0–152	−84
501–1000	153–305	−90
1001–1500	306–457	−95
1501–2000	458–609	−98
2001–2500	610–762	−101
2501–3000	763–914	−101
3001–3500	915–1066	−103
3501–4000	1067–1219	−104
Above 4000	Above 1219	−104

[3] See note 1, paragraph (c) of this section.

[4] See note 2, paragraph (c) of this section.

TABLE 30—MAXIMUM POWER FLUX DENSITY (PFD) AT THE U.S./CANADA BORDER CORRESPONDING TO ANTENNA HEIGHT ABOVE MEAN SEA LEVEL

[Region 5]

Antenna height above mean sea level		PFD (dBW/m^2)
Feet	Meters	
0–1650	0–503	−87.0
1651–2000	504–609	−88.5
2001–2500	610–762	−91.0
2501–3000	763–914	−92.5
3001–3500	915–1066	−94.0
3501–4000	1067–1219	−95.0
4001–4500	1220–1371	−95.5
4501–5000	1372–1523	−96.0
Above 5000	Above 1523	−107.0

(Secs. 4(i) and 303, Communications Act, as amended, and 5 U.S.C. 553 (b)(3)(B) and (d)(1))

[47 FR 41032, Sept. 16, 1982; 47 FR 41045, Sept. 16, 1982; 47 FR 51883, Nov. 18, 1982, as amended at 48 FR 51928, Nov. 15, 1983; 49 FR 22094, May 25, 1984; 50 FR 12261, Mar. 28, 1985; 52 FR 3662, Feb. 5, 1987; 55 FR 42571, Oct. 22, 1990; 56 FR 41469, Aug. 21, 1991; 57 FR 55146, Nov. 24, 1992; 58 FR 31476, June 3, 1993; 58 FR 44963, Aug. 25, 1993; 59 FR 31558, June 20, 1994; 60 FR 48918, Sept. 21, 1995; 61 FR 6156, Feb. 16, 1996; 61 FR 6577, Feb. 21, 1996; 62 FR 18935, Apr. 17, 1997; 62 FR 41214, July 31, 1997; 63 FR 68968, Dec. 14, 1998; 64 FR 71054, Dec. 20, 1999; 69 FR 67846, Nov. 22, 2004]

§ 90.621 Selection and assignment of frequencies.

(a) Applicants for frequencies in the Public Safety and Business/Industrial/Land Transportation Categories must specify on the application the frequencies on which the proposed system will operate pursuant to a recommendation by the applicable frequency coordinator. Applicants for frequencies in the SMR Category must request specific frequencies by including in their applications the frequencies requested.

(b) Stations authorized on frequencies listed in this subpart, except for those stations authorized pursuant to paragraph (g) of this section and EA-based and MTA-based SMR systems, will be assigned frequencies solely on the basis of fixed distance separation criteria. The separation between co-channel systems will be a minimum of 113 km (70 mi) with one exception. For incumbent licensees in Channel Blocks F1 through V, that have received the consent of all affected parties or a certified frequency coordinator to utilize an 18 dBμV/m signal strength interference contour (*see* §90.693), the separation between co-channel systems will be a minimum of 173 km (107 mi). The following exceptions to these separations shall apply:

(1) Except as indicated in paragraph (b)(4) of this section, no station in Channel Blocks A through V shall be less than 169 km (105 mi) distant from a co-channel station that has been granted channel exclusivity and authorized 1 kW ERP on any of the following mountaintop sites: Santiago Peak, Sierra Peak, Mount Lukens, Mount Wilson (California). Except as indicated in paragraph (b)(4) of this section, no incumbent licensee in Channel Blocks F1 through V that has received the consent of all affected parties or a certified frequency coordinator to utilize an 18 dBμV/m signal strength interference contour shall be less than 229 km (142 mi) distant from a co-channel station that has been granted channel exclusivity and authorized 1 kW ERP on any of the following mountaintop sites: Santiago Peak, Sierra Peak, Mount Lukens, Mount Wilson (California).

(2) The separation between co-channel stations that have been granted exclusivity and that are located at high sites in California north of 35° N Latitude and west of 118° W Longitude shall be determined as follows:

(i) Required co-channel separations between common antenna sites are given by table 1. A channel group assigned to a station on a site listed in the vertical column may not be re-assigned to a station on a site listed in the horizontal column if there is an ''X'' in the box created by the intersection of the vertical and horizontal lines. The geographic coordinates listed in the table represent an average for each particular site; all locations within 1.6 km (1 mi) of the coordinates will be considered to be at that site.

(ii) Required co-channel separations involving antenna sites not listed in table 1 shall be determined by Commission staff on a case by case basis. The interference potential of proposed assignments will be evaluated considering parameters such as antenna